

# Emergency Support Function #10 - Oil and Hazardous Materials

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## Primary Department

Fire-EMS Department

## Secondary/Support Departments

Public Works Department

Environmental Administrator

Emergency Management

Police Department

Department of Technology

Virginia Department of Health - Roanoke Health Department

Virginia Department of Emergency Management

Virginia Department of Environmental Quality

## I. Introduction

### A. Purpose:

ESF #10 is responsible for coordinating the technical response to hazardous materials incidents and coordinates the technical response to actual or impending releases of radiological materials. ESF #7 also provides environmental compliance and oversight with overall disaster response. This section provides information for response to hazardous materials incident and assists the Local Emergency Planning Committee (LEPC) in meeting its requirements under the Emergency Planning and Community Right to Know Act – SARA Title III.

### B. Scope:

1. The threat of an incident involving hazardous materials has escalated due to the increase in everyday use and transportation of chemicals by the various segments of our population. Hazardous Materials incidents may occur without warning and require immediate response.
2. Hazardous materials may be released into the environment from a variety of sources including, but not limited to:
  - a. Fixed facilities that produce, generate, use, store or dispose of hazardous materials;
  - b. Transportation accidents, including rail, aircraft, and waterways; and
  - c. Abandoned hazardous waste sites; and
  - d. Terrorism incidents involving Weapons of Mass Destruction.
3. Evacuation or sheltering in place may be required to protect portions of the City. If contamination occurs, victims may require special medical treatment.
4. The release of hazardous materials may have short and/or long health, environmental and economic effects depending upon the type of product.
5. The City maintains high standards of environmental care and this function ensures practices and methods maintain continued compliance.

### **C. Policies:**

1. Personnel will be properly trained;
2. Fixed Facilities will report annually under SARA Title III;
3. Fire Chief or designee will assume primary operational control of all hazardous materials incidents;
4. Determine the need to evacuate or shelter in place;
5. Environmental Administrator will coordinate compliance activities;
6. Mutual aid agreements will be implemented; and
7. Establish communications with ESF # 5 (Emergency Management) and ESF #15 (Public Information).

## **II. Concept of Operations**

### **A. General:**

The EOP and the Hazardous Materials Response Plan provide general guidance and the Fire-EMS Department will provide specific guidance for managing hazardous materials incidents. The Roanoke Valley Allegheny Regional Commission developed a Regional Hazardous Materials Plan that serves as an annex to this plan. During a disaster, all requests for hazardous materials support will be submitted to the EOC for coordination, validation, and/or action in accordance with this ESF. Otherwise, Hazardous Materials incidents will be coordinated by the Fire-EMS Department with assistance from the City's Environmental Administrator.

### **B. Organization:**

1. The Superfund Amendments and Reauthorization Act of 1986 (SARA Title III) requires the development of detailed procedures for identifying facilities with extremely hazardous materials and for assuring an adequate emergency response capability by these facilities and by local emergency services. A separately published Hazardous Material Emergency Response Plan has been developed for the Roanoke Valley by the Roanoke Valley Allegheny Regional Commission and this plan is considered a part of the City's Emergency Operations Plan (EOP).
2. Mutual aid agreements will be implemented should the incident demand greater resources than are immediately available. The Virginia Department of Emergency Management's (VDEM) Regional Hazardous Materials Officer and Hazardous Materials Response Team may be requested through the Virginia Emergency Operations Center.
3. The Coordinator of Emergency Management, in conjunction with the Fire Chief, the Environmental Administrator, and VDEM Regional Hazardous Materials Officer will determine the need to evacuate a large area. Evacuation orders or other protective actions will be issued as needed. However, the on-scene commander may order an immediate evacuation prior to requesting or obtaining approval, if this action is necessary to protect life and property. Fire-EMS and the Police Department will coordinate the evacuation of the area and ESF #13 (Public Safety and Security) is responsible for providing security for the evacuated area.
4. Should an evacuation become necessary, warning and directions for evacuation and/or shelter-in-place will be disseminated via all appropriate

means to include, but not limited to, canvassing, route-alerting, loud-speakers, Reverse 911, and EAS broadcast messages to ensure that residents in the threatened areas have received evacuation warning.

### **C. Actions**

1. Respond to the incident;
2. Assess the situation;
3. Determine the need for immediate evacuation or sheltering in place;
4. Coordinate with the EOC;
5. Notify and request assistance through the VEOC; and
6. Implement Mutual Aid agreements.

### **D. Responsibilities**

1. Primary Department (Fire-EMS)
  - a. Develop and maintain the Hazardous Materials Emergency Response Plan;
  - b. Develop procedures aimed at minimizing the impact of an unplanned release of a hazardous material to protect life and property;
  - c. Conduct training for personnel in hazardous materials response and mitigation;
  - d. Follow established procedures in responding to hazardous materials incidents;
  - e. Provide technical information;
  - f. Coordinate control/mitigation efforts with other local, state, and federal agencies;
  - g. Perform the duties necessary to reduce, remove or eliminate the threat of a hazardous materials spill or release;
  - h. Provide emergency medical treatment and transport to medical facilities for further treatment.
  - i. Request and utilize assistance and/or support from the local regional hazardous materials team, and/or state or federal agencies; and
  - j. Record all expenses and seek reimbursement of costs associated with the response.
2. Support Departments
  - a. ESF #13 (Public Safety and Security)
    1. Provide security and traffic control at the scene of an oil or hazardous materials incident.
    2. Control access to the immediate incident site for safety and limit entry to authorized personnel only.

3. Assist with the evacuation of citizens when requested by the Incident Commander.
4. Provide access control to evacuated areas to prevent theft.
5. Provide assistance in determining the number and identity of casualties.

b. Emergency Management

1. Coordinates with the Incident Commander and based upon the incident classification and recommendations can initiate the activation of the EOC;
2. Coordinates with regional/state/federal agencies when support is provided to augment response and recovery operations;
3. Coordinate with the RVEPC on hazmat issues, as required by the EPCRA (Emergency Planning, Community Right-to-Know Act of 1986);
4. Declare a State of Emergency to the proper state and/or federal agencies;
5. Seek state and federal funds for reimbursement of costs associated with incident; and
6. Maintains an accurate and up-to-date hazmat emergency contact roster that provides 24 hour contact information for state, federal, and private contractors.

c. Public Works

1. Provide heavy equipment and materials for spill containment.
2. When requested, provide barricades to isolate the incident site.
3. Cooperate with law enforcement to detour traffic around the incident site.
4. Coordinate with Water Authority on:
  - a. When notified of an incident, which may impact water or sewer systems, take precautionary actions to prevent damage to those systems.
  - b. If a hazmat incident impacts water or sewer systems, check systems for damage and restore service.
  - c. Where appropriate, provide input for protective actions for the public relating to water and sewer systems.

d. Environmental Administrator

1. Monitors all cleanup operations and works with other state agencies;
2. Coordinate with facilities within the City that are subject to state and federal requirements in regards to storage and handling of hazardous materials;
3. Assists in recording all expenses and seek reimbursement of costs associated with the response;
4. Assist with the development of local policies and procedures regarding hazardous materials and oil spills;

5. Maintains an accurate and up-to-date hazmat emergency contact roster that provides 24 hour contact information for state, federal, and private contractors; and
  6. Ensures environmental compliance with all clean-up and remediation.
- e. Regulated Facilities/Hazmat Transportation Companies
1. Provide current emergency contact numbers to local authorities;
  2. Upon request, provide planning support for accidental release contingency planning by local emergency responders;
  3. In the event of an incident:
    - a. Immediately make notification of the incident to local officials and other agencies required by state and federal law;
    - b. Provide information pertaining to the incident to emergency responders;
    - c. Make recommendation to responders for containing the release; and
    - d. Assist with specialized equipment, if available, used with the hazardous materials problem.
  4. Regulated facilities are also required to:
    - a. Report hazmat inventories to the RVEPC, and the Fire-EMS department, as required by federal and state statutes and regulations;
    - b. Provide MSDS (Material Safety Data Sheets);
    - c. Designate a facility emergency coordinator; and
    - d. Develop an on-site emergency plan that specifies notification and emergency response procedures and recovery actions.
- f. State Government
1. In the event of an oil or hazardous materials incident, the Virginia EOC (EOC) will be notified and advised of the incident; and
  2. If requested, assistance from the Virginia Department of Emergency Management (VDEM) Hazardous Materials Officer will be provided.
- g. Virginia Department of Environmental Quality (DEQ)
1. Lead State agency for response to an oil spill or any spill affecting the waters, storm drains and lands of the Commonwealth following abatements of public safety concerns;
  2. Provides support to emergency response operations and serves as technical adviser to City or State emergency responders with regards to environmental threats affecting public health and safety as well as threats to critical systems; and
  3. Coordinate any cleanups if the responsible party cannot be identified or is unable to provide cleanup of the spill through the Virginia Petroleum Storage Tank Fund (VPSTF).

**Tab 1 to ESF #10 Oil and Hazardous Materials**  
**PROTECTIVE ACTIONS FOR THE PUBLIC**

**1. Factors to Consider in Selecting Protective Actions**

Among the factors to be considered in determining protective actions for the public are the following:

- a. Characteristics of the hazardous material
  - (1) Degree of health hazard
  - (2) Amount of material that has been released or is expected to be released
  - (3) Time of release
  - (4) Rate of spread
- b. Weather conditions, particularly wind direction and speed for airborne hazards
- c. Population at risk
  - (1) Location
  - (2) Number
  - (3) Special facilities or populations
  - (4) Evacuation routes
- d. Estimated warning and evacuation times
- e. Ability to predict behavior of hazmat release (typically from release modeling software)

**2. Primary Protective Strategies.**

- a. The two primary protective strategies used during hazmat incidents are shelter in place and evacuation:
  - (1) Shelter in place involves having people shelter in a building and take steps to reduce the infiltration of contaminated outside air. Shelter in place can protect people for limited periods by using the shielding provided by a building's structure to decrease the amount or concentration of hazmat to which they are exposed. With a continuous release, the indoor concentration of hazmat for buildings within the hazmat plume will eventually equal the average outdoor concentration, limiting the effectiveness of this strategy in long term releases.
  - (2) Evacuation protects people by relocating them from an area of known danger or potential risk to a safer area or a place where the risk to health and safety is considered acceptable. While evacuation can be very effective in protecting the public, large-scale evacuation can be difficult to manage, time consuming, and resource intensive.
  - (3) Shelter in place and evacuation are not mutually exclusive protective strategies. Each strategy may be appropriate for different geographic areas at risk in the same incident. For example, residents within a mile downwind of an incident site may be advised to shelter in place because

there is insufficient time to evacuate them, while residents of areas further downwind may be advised to evacuate.

b. Determining Protective Actions.

The information that follows is intended to aid in weighing suitable protective actions for the public and special facilities.

(1) Shelter in place may be appropriate when:

- Public education on shelter in place techniques has been conducted.
- Sufficient buildings are available in the potential impact area to shelter the population at risk.
- In the initial stages of an incident, when the area of impact is uncertain
- A hazmat release is impacting or will shortly impact the area of concern.
- A hazmat release is short term (instantaneous or puff release) and wind is moving vapor cloud rapidly downwind
- Evacuation routes are unusable due to weather or damage or because they pass through a likely hazmat impact area.
- Specialized equipment and personnel needed to evacuate institutions such as schools, nursing homes, and jails is not available.

(2) Evacuation may be appropriate when:

- A hazmat release threatens the area of concern, but has not yet reached it.
- A hazmat release is uncontrolled or likely to be long term.
- There is adequate time to warn and instruct the public and to carry out an evacuation.
- Suitable evacuation routes are available and open to traffic.
- Adequate transportation is available or can be provided within the time available.
- Specialized equipment and personnel needed to evacuate institutions are available.
- The hazmat released is or will be deposited on the ground or structures and remain a persistent hazard.
- The likely impact area includes a large outdoor population and there are insufficient structures for sheltering that population.

**3. Other Protection Strategies**

a. Protection of Water Systems.

A hazmat incident may contaminate ground water supplies and water treatment and distribution systems. Threats to the drinking water supply must be identified quickly and water system operators must be notified in a timely manner in order to implement protective actions. If water supplies are affected, the public must be warned and advised of appropriate protective actions; alternative sources of water will have to be provided.

b. Protection of Sewer Systems.

A hazardous chemical entering the sanitary sewer system can cause damage to a sewage treatment plant. If sewer systems are threatened, facility operators must be notified in a timely manner in order to implement protective actions. If systems are damaged, the public must be warned and advised what to do. It will likely be necessary to provide portable toilets in affected areas.

c. Relocation.

Some hazardous material incidents may contaminate the soil or water of an area and pose a chronic threat to people living there. People may need to move out of the area for a substantial period of time until the area is decontaminated or until natural weathering or decay reduces the hazard.

**Tab 2 to ESF #10 Oil and Hazardous Materials**  
**General HAZMAT Response Checklist**

√	Action Item	Assigned
	1. If the situation requires it, isolate the site and deny access. <ul style="list-style-type: none"> <li>• Use emergency vehicles, barricades, barrier tape, etc.</li> </ul>	
	2. Classify incident, provide basic situation information to dispatch, and identify response resources required. See Incident Classification at the end of this checklist. <ul style="list-style-type: none"> <li>• Level I – Incident</li> <li>• Level II – Emergency</li> <li>• Level III – Disaster</li> </ul>	
	3. If situation requires, make notification to Hazardous Materials Coordinator.	
	4. Identify hazardous material being released. <ul style="list-style-type: none"> <li>• Information may be obtained from facility staff, hazmat inventory reports, placards, shipping papers or manifest, container labels, pipeline markers, and similar materials.</li> </ul>	
	5. Determine extent of danger to responders and establish requirements for personal protective equipment and specialized response equipment.	
	6. Ascertain extent of danger to general public; determine specific areas and special facilities (schools, hospitals, nursing homes, jails, and other institutions).	
	7. Develop initial action plan to contain and control the release of hazardous materials.	
	8. Determine appropriate protective actions for the public and special facilities. If evacuation is contemplated, check evacuation route status.	
	9. Initiate warning and issue protective action recommendations for the public and special facilities. <ul style="list-style-type: none"> <li>• See Warning Annex public notification messages.</li> </ul>	
	10. Warn special facilities, provide instructions, and determine requirements for assistance. Provide assistance requested.	
	11. If evacuation is recommended, provide traffic control and be prepared to provide transportation to those who lack it.	
	12. Warn other communities that may be threatened by the hazmat release.	

√	Action Item	Assigned
	13. If possibility exists of casualties that are contaminated with hazardous substances, ensure EMS units and hospitals are so advised.	
	14. If evacuation is recommended, staff and open temporary shelters for evacuees.	
	15. If the release threatens water or sewer systems or critical facilities such as power plants or airports, advise the companies or departments concerned, so that they may take preventative actions. <ul style="list-style-type: none"> <li>• If the release impacts water or sewer systems, ensure the public is warned and provided appropriate instructions.</li> </ul>	
	16. Advise the responsible party to report release to state and federal authorities as required by state and federal statutes and regulations.	
	17. If on-scene technical assistance is required, request assistance from industry or appropriate state or federal agencies.	
	18. If additional response resources are required request them. <ul style="list-style-type: none"> <li>• Mutual aid.</li> <li>• Hazmat contractor.</li> </ul>	
	19. Continuously document actions taken, resources committed, and expenses incurred.	
	20. Provide updated information on the incident to the public through media releases.	
	21. When the release of hazardous materials is terminated, inspect potentially affected areas to determine if they are safe before ending protective actions for the public or special facilities.	
	22. Advise utilities and critical facilities that were impacted by the incident when the release of hazardous materials is terminated.	
	23. If some areas will require long term cleanup before they are habitable, develop and implement procedures to mark and control access to such areas.	
	24. When it is determined to be safe to end protective actions, advise the public and special facilities and, if an evacuation occurred, manage the return of evacuees.	
	25. Conduct post-incident review of response operations.	

### **Tab 3 to ESF #10 Oil and Hazardous Materials**

#### **Emergency Situation Classifications**

- Level I – Incident. An incident is a situation that is limited in scope and potential effects; involves a limited area and /or limited population has no effects to the environment and can be handled by the initial responding personnel with no assistance from local or outside agencies or contractors.
- Level II – Emergency. An emergency situation that is larger in scope and more severe in terms of actual or potential effects than a level I incident. It does or could include a large area, limited or significant population or critical facilities. Emergencies may require evacuation or in-place sheltering, medical care operations and cause environmental impacts. It requires the activation of the department's hazardous materials team and/or Roanoke Valley Regional Hazardous Materials Team and limited external assistance from state or federal agencies along with private contractors. In situations deemed necessary a state of emergency may be declared at the local/state/federal level.
- Level III – Disaster. A disaster involves the occurrence or threat of significant casualties and /or widespread property damage that is beyond the capabilities of the local government with its resources. It involves a large area, sizeable population and severe environmental impact. It may require large scale evacuation or in-place sheltering. The situation requires significant external assistance from other local agencies, contractors and extensive state or federal assistance. In a disaster a state of emergency may be declared at the local/state/federal levels.